**TASK C**

*NOTE: Remove the slope (right click, delete) from your file, then SAVE AS a new file.*

**Create a SECOND LINE (as in Task B) with sliders m\_1 and b\_1, and equation y = m\_1\*x + b\_1.**

**Don’t forget to RIGHT CLICK on the sliders and line to change the OBJECT PROPERTIES (as before).**

Select and FIX the position of the text. Close the PROPERTIES box.

**Find and select the INSERT TEXT tool and click on the drawing pad.**



**Type** Line 1: **and then** single click on the equation of line 1 **in the algebra window.**

Repeat this step to create interactive text for **Line 2**. FIX the position of the text.



**RIGHT CLICK** to alter their OBJECT PROPERTIES. Change the colour, size and bold the text.

**Use the DRAG tool to move *sliders m* and *m*1 until you believe that the two lines are parallel.**



What do you notice about the two gradients when the two lines are parallel?

|  |
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| *Place your answer here…* |

**Use the DRAG tool to move the *sliders m, m*1 and *b, b*1 to create 4 pairs of parallel lines.**



Write them in the space below.

|  |  |  |  |
| --- | --- | --- | --- |
| *Place your answers here…* | | | |
| *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* |

**Enter this text in the INPUT line and press ENTER.** "Gradient Line 1:" + (FractionText[Slope[a]])

**Make sure that the Latex Formula box is ticked.**

Use the drag arrow to move the text into a more suitable position. **RIGHT CLICK** to alter their OBJECT PROPERTIES. FIX the position of the text. Change the colour, size and bold the text.



**Create similar interactive text for Line 2** to show the gradient of each line as a fraction.

Adjust your sliders to make sure that your two lines are intersecting.



**Find and select the ANGLE tool and click on LINE 1 then LINE 2.**

**Use the DRAG tool to move the *sliders m* and *m*1 until they appear to be perpendicular.**



What do you notice about the two gradients when the two lines are perpendicular?

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| *Place your answer here…* |

**Use the DRAG too to move the *sliders m, m*1 and *b, b*1 to create 4 pairs of perpendicular lines.**



Write them in the space below.

|  |  |  |  |
| --- | --- | --- | --- |
| *Place your answers here…* | | | |
| *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* | *LINE 1*  *LINE 2* |

**4. Select FILE/EXPORT IMAGE to clipboard** and PASTE it in the space provided on the next page.

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| *Investigating straight lines: TASK C* |